Metadata for Rock Creek Park, Field Plots Data Base for Vegetation Mapping

Identification_Information:
Citation:
Citation_Information:
Originator: USGS, Biological Resources Division, Center for Biological Informatics
Publication_Date: 19961029
Title: Rock Creek Park Field Plots Data Base for Vegetation Mapping
Geospatial_Data_Presentation_Form: database
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Rock Creek Park
Publication_Information:
Publication_Place: Denver, CO
Publisher: USGS, Biological Resources Division, Center for Biological Informatics
Other_Citation_Details: Created under contract to the USGS-BRD-CBI by The Nature Conservancy.
Online_Linkage: http://biology.usgs.gov/npsveg/rocr/fielddata.html
Description:
Abstract:
The National Park Service (NPS), in conjunction with the Biological Resources Division (BRD) of the U.S. Geological Survey (USGS), has implemented a program to "develop a uniform hierarchical vegetation methodology" at a national level. The program will also create a geographic information system (GIS) database for the parks under its management. The purpose of the data is to document the state of vegetation within the NPS service area during the 1990's, thereby providing a baseline study for further analysis at the Regional or Service-wide level. Aerial Information Systems (AIS) was subcontracted by Environmental Systems Research Institute (ESRI), the prime contractor, to perform the photointerpretation for the program. ESRI subcontracted The Nature Conservancy (TNC) to conduct the field sampling effort and to support the development of the National Standard Classification.
Purpose:
Several parks, representing different regions, environmental conditions, and vegetation types, were chosen by BRD to be part of the prototype phase of the program. The initial goal of the prototype phase is to "develop, test, refine, and finalize the standards and protocols" to be used during the production phase of the project. This includes the development of a standardized vegetation classification system for each park and the establishment of photointerpretation, field, and accuracy assessment procedures. Rock Creek

Park, established in 1890, was designated as one of the prototype parks. The park is located on the fall line between the Atlantic coastal plain and the piedmont. The main portion of the park is bounded on the north by the Maryland State line and on the south by the Virginia State line. Its western edge follows along Oregon Avenue, and it is bounded on the east by 16th Street NW. The western outlying portions of the Park extend to and slightly beyond Nebraska Avenue NW. The eastern outlying portions extend from 16th Street NW to the junction of US Highway 1 and the Maryland border. The park is noted for having exceptional resources, including six natural resources that maintain its significance within the National Park System. Included in these six natural resources, are three that are directly related to the vegetation of the park. They are: 1) Deciduous forests, 2) Wetlands, and 3) Plant species protected in both Virginia and Maryland. Based on these and other resources, Rock Creek Park is divided up into nine management zones pertaining to vegetation, automobile access, recreation, administration, and cultural resources.

Supplemental_Information:

Rock Creek is one of the largest forested urban parks in the United States, with more the ¾ of the park's approximately 2,760 acres covered by mature deciduous forest. A significant portion of this forest is second growth, with a moderately high diversity in canopy and understory species. Rock Creek Park is made up of steep canyons and side slopes that bisect several significant east-west trending ridgelines. The park descends along the fall line through numerous small rapids along the creek. Rock Creek itself, descends over 150' from the state line to its confluence with the Potomac River. Flood plain development is fairly restrictive, limited primarily to Rock Creek itself. Broad Branch, the main tributary to Rock Creek within the park, flows southeasterly and joins Rock Creek towards the southern portion of the park. At the confluence, the park boundary significantly narrows in its east-west extent. All sections are accessible either by automobile or by hiking. Most portions of the park are accessible through short hikes, usually under one mile. Gradients above the floodplain are surprisingly steep, and make for some moderate hiking. For purposes of vegetation mapping, the park was divided into four sections pertaining primarily to its location on the fall line between the coastal plain and piedmont. The park was further divided into the main portion of the park (containing Rock Creek), and the various outliner

portions of the park to the east and west.
Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 19961029
Currentness_Reference: Source_Photography_Date
Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Planned
Spatial_Domain:
Description_of_Geographic_Extent:
The park is located on the fall line between the Atlantic coastal plain and the piedmont. The main portion of the park is bounded on the north by the Maryland State line and on the south by the Virginia State line. Its western edge follows along Oregon Avenue, and it is bounded on the east by 16th Street NW. The western outlying portions of the Park extend to and slightly beyond Nebraska Avenue NW. The eastern outlying portions extend from 16th Street NW to the junction of US Highway 1 and the Maryland border.
Bounding_Coordinates:
West_Bounding_Coordinate: 77.1
East_Bounding_Coordinate: 77
North_Bounding_Coordinate: 38.98333
South_Bounding_Coordinate: 38.9
Keywords:
Theme:
Theme_Keyword_Thesaurus: None
Theme_Keyword: National Park Service
Theme_Keyword: U.S. Geological Service
Theme_Keyword: The Nature Conservancy
Theme_Keyword: Aerial Information Systems
Theme_Keyword: Center for Biological Informatics
Theme_Keyword: land cover
Theme_Keyword: vegetation
Theme_Keyword: community
Theme_Keyword: association
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Rock Creek Park
Place_Keyword: Washington D.C.
Place_Keyword: USA
Stratum:
Stratum_Keyword_Thesaurus: None
Stratum_Keyword: Glover Archbold Park and Environs
Stratum_Keyword: Fort Totten Park, Barnard Hill Park and Environs
Stratum_Keyword: Land Use Areas of the Park
Stratum_Keyword: Coastal Plain
Stratum_Keyword: Piedmont
Stratum_Keyword: Forest Zone
Temporal:
Temporal_Keyword_Thesaurus: None
Temporal_Keyword: Data Represents October 1996
Taxonomy:

Keywords/Taxon:
Taxonomic_Keyword_Thesaurus: None
Taxonomic_Keywords: National Vegetation Classification System
Taxonomic_System:
Classification_System/Authority:
Classification_System_Citation:
Citation_Information:
Originator:
United States Department of the Interior National
Biological Survey and National Park Service
Publication_Date: 19941101
Title:
Standardized National Vegetation Classification
System
Edition: Version 1
Geospatial_Data_Presentation_Form: Classification System
Series_Information:
Series_Name: NBS/NPS Vegetation Mapping Program
Issue_Identification: Final Draft
Publication_Information:
Publication_Place: Redlands, California
Publisher: ESRI
Other_Citation_Details: Prepared by the Nature Conservancy
Identification_Reference:
Citation_Information:
Originator:
United States Department of the Interior National
Biological Survey and National Park Service
Publication_Date: 19941101
Title:
Standardized National Vegetation Classification
System
Edition: Version 1
Geospatial_Data_Presentation_Form: Classification System
Series_Information:
Series_Name: NBS/NPS Vegetation Mapping Program
Issue_Identification: Final Draft
Publication_Information:
Publication_Place: Redlands, California
Publisher: ESRI
Other_Citation_Details: Prepared by the Nature Conservancy
Taxonomic_Procedures:
See "Photo Interpretation Report, BRD/NPS Vegetation and Inventory and Mapping Program,
Rock Creek Park," October 1, 1998 <http://biology.usgs.gov/npsveg/rocr/pi_rpt.pdf>
Taxonomic_Completeness: Complete
General_Taxonomic_Coverage:
Vegetation Alliances of the National Vegetation
Classification System (October 1995)
Taxonomic_Classification:
Taxon_Rank_Name: Kingdom
Taxon_Rank_Value: Plantae
Access_Constraints: None
Use_Constraints:
Any person using the information presented here
should fully understand the data collection and
compilation procedures, as described in these

metadata, before beginning analysis. The burden for determining fitness for use lies entirely with the user. For purposes of publication or dissemination, citations should be given to the U.S. Geological Survey and the National Park Service

Point_of_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Person: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Organization:
USGS Biological Resources Division, Center for Biological Informatics
Contact_Address:
Address_Type: Physical Address
Address: USGS
Address: Biological Resources Division, CBI
Address: Building 810, Room 8000
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
Contact_Address:
Address_Type: Mailing Address
Address: USGS
Address: Biological Resources Division, CBI
Address: PO BOX 25046, DFC, MS302
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
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Contact_Facsimile_Telephone: 303-202-4219 (org)
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Browse_Graphic:
Browse_Graphic_File_Name: http://biology.usgs.gov/npsveg/rocr/images/rocrplot.jpg
Browse_Graphic_File_Description: 182 Kbyte
Browse_Graphic_File_Type: JPEG
Security_Information:
Security_Classification_System: None
Security_Classification: None
Security_Handling_Description: None
Native_Data_Set_Environment: Microsoft Access mdb

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
Physical description - For 77 sites, contains site code, site name, GPS coordinates, physical factors (elevation, slope, aspect, topographic setting, landform, surface geology, cowardin system type, hydrography, surface materials, soil texture and drainage, leaf characteristics, and physiography.

Species listing - Contains species listings for each site,

listed by site code one species per line, with species type, plant code, and strata code.

Logical_Consistency_Report:
Physical description - Entries for each of the listed attributes are in the form of consistent groupings of either textual or numerical descriptors.
Species - Entries for each of the listed attributes are in the form of consistent groupings of either textual or numerical descriptors.

Completeness_Report:
Descriptive entries for each of the 77 plots are complete for each of the applicable attributes listed in the database.

Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
Unknown. The coordinates associated with each plot are assumed to be generated from GPS receivers, but no specific information is currently available.

Lineage:
Methodology:
Methodology_Type: Field
Methodology_Description:
FIELD METHODS: Plots were subjectively placed so as to be most representative of the mapped vegetation unit. All mapped vegetation types were sampled over a range of environmental variation. Additional plots were taken where the vegetation type documented in the field was unclassified or less well known. For example, the ash floodplain map unit polygons were targeted specifically for field verification. This vegetation types was later classified as part of the Platanus occidentalis - Fraxinus pennsylvanica Forest Association.

Plot sizes ranged from 20 x 20 m for forests and woodlands, 10 x 10 m for shrublands, and 5 x 5 m for herbaceous vegetation. In some cases, where the polygons were too narrow to reasonably accomodate standard plot sizes, the plots were adjusted accordingly, e.g., 10 x 20 m plots were often used in sampling narrow bands of floodplain forest in the park. The vegetation was visually divided into strata, and all the species of each stratum were listed and percent cover estimated. Additional species within the vegetation unit or polygon that occurred outside of sampled plots were listed separately. Species that were not identifiable in the field were collected for later identification. In addition to floristic information, the following environmental information was recorded on field forms: soil profile description, flooding regime, soil moisture regime, slope, aspect and evidence of disturbance. Latitude and longitude of each plot was recorded using a GPS unit. The vegetation profile in cross-section was sketched by hand to represent the location and setting of the plot. Seventy-seven vegetation plots in total were sampled for this project.

DATA ANALYSIS: Park plot data (77 plots) were entered by Rock Creek Park staff into The Nature Conservancy's PLOTS Database System (1997) on a Microsoft Access platform. Species were assigned standardized codes and names based on the PLANTS database developed by National Resources Conservation Service

(NRCS) in cooperation with the Biota of North America Program (BONAP). For the vegetation analysis, portions of the Rock Creek Park data set were copied onto spreadsheets in a format compatible with PC-ORD Multivariate Analysis package (McCune and Mefford 1997). Plots that represented cultivated types or exotics-dominated sites were excluded from the analysis. Several outliers (plots that are very dissimilar from all the others) were identified using Sorenson and Euclidian formulas in PC-ORD and were excluded from the primary analyses. The remaining data set of 67 plots was analyzed with Detrended Correspondence Analysis/DCA (Hill and Gauch 1980) and Two-Way Indicator Species Analysis/TWINSPAN (Hill 1979). DCA ordinates both species and samples simultaneously along preceived gradients (e.g. that may indicate moisture gradient, elevation, etc.). TWINSPAN successively divides the plots into groups that are similar in species composition. The initial results indicated that some plots were artificially clustering based on high percent cover of several exotic species. The data set was further modified to exclude these exotics and the revised data were re-analyzed with DCA and TWINSPAN.

These groups were compared with the National Vegetation Classification (Grossman et al. 1998) and matched to existing Alliances and/or Associations where appropriate.

Environmental data on soil characteristics, slope, aspect and topography for each plot were used to interpret the results. The soil survey, geologic map and topographic maps were also used in the interpretation. Plot information on flooding regime was incomplete but could be extrapolated from the polygon and plot locations delineated on air photos and topographic maps. Environmental data were analyzed using the ordination program CANOCO in PC-ORD. However, due to the small size of the study area, the relatively uniform topography of the park and some incomplete and inconsistent data on soil types and hydrology, the CANOCO results provided little additional information for the classification.

Methodology_Citation:
Citation_Information:
Originator:
Lesley Sneddon, Julie Lundgren, Mark Anderson,
Dennis Grossman, Kathy Goodin, Anthony Curtis,
Mark Bryer, Robert Ford, Eden Crane, Susan Salmons,
Tara Faud, Stephanie Glenn, Tim Assal, Jason Grant,
Jeannie Whitler, Rebecca Wright, Jim Drake

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1815 North Lynn Street,
Arlington, VA 22209
Publication_Date: 1998
Title:
USGS-NPS Vegetation Mapping Program,
Classification of the Vegetation of Rock Creek Park
Geospatial_Data_Presentation_Form: Report

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        Publication_Information:
          Publication_Place: Denver, CO
          Publisher: USGS, BRD, Center for Biological Informatics
        Other_Citation_Details: Created under contract to the USGS-BRD-CBI.
        Online_Linkage: <http://biology.usgs.gov/npsveg/rocr/methods.pdf>
    Source_Information:
      Source_Citation:
       Citation_Information:
        Originator: Air Survey Corporation Sterling, Virginia
        Publication_Date: 19961029
        Publication_Time: Unknown
        Title: Rock Creek Park
        Edition: Version 1.0
        Geospatial_Data_Presentation_Form: image
        Series_Information:
          Series_Name: 1.0
          Issue_Identification: Unknown
        Publication_Information:
          Publication_Place: Sterling Virginia
          Publisher: Air Survey Corporation
        Other_Citation_Details: The aerial photography is CIR 1:6,000 scale.
        Online_Linkage: http://biology.usgs.gov/npsveg/rocr/photos.html
      Source_Scale_Denominator: 12000
      Type_of_Source_Media: CIR Aerial Photography
      Source_Time_Period_of_Content:
       Time_Period_Information:
        Single_Date/Time:
          Calendar_Date: 19961029
          Time_of_Day: Unknown
       Source_Currentness_Reference: publication date
      Source_Citation_Abbreviation: ASC
      Source_Contribution: None
    Process_Step:
      Process_Description: See Methodology Description above
      Source_Used_Citation_Abbreviation: ASC
      Process_Date: 199803

Spatial_Data_Organization_Information:
  Indirect_Spatial_Reference:
    The ecology field sites were digitized to indicate
    the area for which a TNC ecologist conducted an
    ecological field sampling.
  Direct_Spatial_Reference_Method: Point
  Point_and_Vector_Object_Information:
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Point

Spatial_Reference_Information:
  Horizontal_Coordinate_System_Definition:
    Planar:
      Grid_Coordinate_System:
        Grid_Coordinate_System_Name: Universal Transverse Mercator
        Universal_Transverse_Mercator:
          UTM_Zone_Number: 18
          Transverse_Mercator:
            Longitude_of_Central_Meridian: -180
```

Latitude_of_Projection_Origin: -90
False_Easting: 50000
False_Northing: 0
Scale_Factor_at_Central_Meridian: 0.9996
Planar_Coordinate_Information:
Planar_Coordinate_Encoding_Method: coordinate pair
Coordinate_Representation:
Abscissa_Resolution: 1
Ordinate_Resolution: 1
Planar_Distance_Units: Meters
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodedic Reference System 80
Semi-major_Axis: 6378137
Denominator_of_Flattening_Ratio: 298.257
Vertical_Coordinate_System_Definition:
Altitude_System_Definition:
Altitude_Datum_Name: North American Vertical Datum of 1988
Altitude_Resolution: 1
Altitude_Distance_Units: Feet
Altitude_Encoding_Method: Explicit elevation coordinate included with horizontal coordinates

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
Physical Descriptive Data:
Plot Code: This field is the unique identifier for a Plot record. It is generated by the system, at the time a new record is entered into the database. The Plot Code is assembled from two parts: the Location Code and the Plot Code Counter, which is a sequential counter field that is increased automatically each time a Plot is entered for that Location. The sequential counter can be reset to any number you would like.
SubPlot: ‘yes’ if the plot is a subplot of another larger plot. Blank if the plot is not a subplot of another plot.
Polygon Code: Code indicating the vegetation polygon where the plot was taken. This is entered only if working from previously delineated photos.
Provisional Community Name: The name of the vegetation type which most closely resembles this type using the classification system. Entered at the finest level of the classification possible. This is meant to be a field call of the vegetation classification and may change when the data are analyzed. Colloquial names can be used in this field if necessary.
Classified Community Name: The community name from the National Vegetation Classification System, once the data are analyzed and the community has been classified.
TNC Elcode: The Elcode (Element Code) for the community element corresponding to the Classified Community Name.
Quad Name: Appropriate name/scale from survey map used; 7.5 minute quadrangle used if possible.
Quad Code: Code of USGS 7.5 minute quadrangle map.
GPS Techniques: (empty) The projection and GPS datum, plus any noteworthy comments regarding equipment and/or techniques used to process the GPS data.
Corrected UTM X: X coordinate of Universal Transerverse Mercator

projection after post-processing correction. Filled in at the office, not in the field.
Corrected UTM Y: Y coordinate of Universal Transerverse Mercator projection after post-processing correction. Filled in at the office, not in the field.
Survey Date: Date the survey was taken; month, day, year*. *Year is entered as 4 characters, so as to avoid the "Year 2000" computer problem.
Surveyors: (empty) Names (and addresses, if appropriate) of surveyors, principle surveyor listed first.
X Dimension: The length in meters* of one side of each of the plots in which samples were taken. If the plot is circular, enter the length of its radius. If transects were used, enter their length here. The value of X Dimension should correspond to the plot specified in the Plot Shape field. *NOTE: Dimensions MUST be converted to meters.
Y Dimension: The length in meters* of the side of the plot adjacent to the side entered in the X Dimension field. The value entered in the Y Dimension field should correspond to the plot referred to in the Plot Shape and X Dimension fields. Leave this field blank if the plot is circular. Enter a one if a transect was used. *NOTE: Dimensions MUST be converted to meters.
Plot Shape: Shape which best describes that used for this sample. Possible values are "rectangular", "square", "circular", "transect/strip", "Other"
Photos: "yes" if photos of the plot were taken at the time of sampling.
Permanent: "yes" to indicate if the plot has been permanently marked.
Slope: Degrees of slope measured using a clinometer. Possible values include "FLAT"=0°=0%, "GENTLE"=0-5°=1-9%, "MODERATE"=6-14°=10-25%, "SOMEWHAT STEEP"=15-26°=26-49%, "STEEP"=27-45°=50-100%, "VERY STEEP"=45-69°=101-275%, "ABRUPT"=70-100°=276-300%, "OVERHANG/SHELTERED"=>100°=>300%
Aspect: aspect of the slope; measured using a compass (should have been corrected for the magnetic declination). Possible Values are "flat", "variable". Topo Position: Possible values include "INTERFLUVE"=(crest, summit, ridge) linear top of ridge, hill, or mountain; the elevated area between two fluves (drainageways) that sheds water to the drainageways.
"HIGH SLOPE"=(shoulder slope, upper slope, convex creep slope) geomorphic component that forms the uppermost inclined surface at the top of a slope. Comprises the transition zone from backslope to summit. Surface is dominantly convex in profile and erosional in origin.
"HIGH LEVEL"=(mesa) level top of plateau.
"MIDSLOPE"=(transportational midslope, middle slope) intermediate slope position
"BACKSLOPE"=(dipslope) subset of midslopes which are steep, linear, and may include cliff segments (fall faces).
"STEP IN SLOPE"=(ledge, terracette) nearly level shelf interrupting a steep slope, rock wall, or cliff face.
"LOWSLOPE"=(lower slope, foot slope, colluvial footslope) inner gently inclined surface at the base of a slope. Surface profile is generally concave and a transition between midslope or backslope, and toe slope.
"TOESLOPE"=(alluvial toeslope) outermost gently inclined surface at base of a slope. In profile, commonly gentle and linear and

characterized by alluvial deposition.
"LOW LEVEL"=(terrace) valley floor or shoreline representing the former postion of an alluvial plane, lake, or shore.
"CHANNEL WALL"=(bank) sloping side of a channel.
"CHANNEL BED"=(narrow valley bottom, gully arroyo) bed of single or braided watercourse commonly barren of vegetation and formed of modern alluvium.
"BASIN FLOOR"=(depression) nearly level to gently sloping, bottom surface of a basin.
Landform: A descriptive term for the landform characteristics of the area.
Surficial Geology: a term that describes the geologic substrate influencing the plant community (bedrock or surficial materials).
Cowardin System: "Upland" if the system is not a wetland, if wetland, the name of the USFWS system which best describes its hydrology and landform. Values include
"ESTUARINE" = Deepwater tidal habitats and adjacent tidal wetlands that are usually semienclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity is above 0.5 parts per thousand, and may be periodically increased above that of the open ocean by evaporation. Along some low energy coastlines there is appreciable dilution of sea water. Off shore areas with typical estuarine plants and animals, such as red mangroves and eastern oysters are also included in the Estuarine System. The presence of halophytic plants may be used to differentiate Estuarine from other freshwater systems if there is insufficient data on salinity.
"PALUSTRINE" = Nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 parts per thousand. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active waveformed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2m at low water; and salinity due to ocean derived salts less than 0.5 parts per thousand.
"RIVERINE" = Includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetland dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean derived salts in excess of 0.5 parts per thousand. A channel is "an open conduit either naturally or artificially created which periodically on continuously contains moving water, or which forms a connecting link between two bodies of standing water".
"LACUSTRINE" = Includes wetlands and deepwater habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30% areal coverage: and (3) total area exceeds 8 ha (20 acres). Similar wetland and deepwater habitats totaling less than 8 ha are also included in the Lacustrine System if an active waveformed or bedrock shoreline feature makes up all or part of the boundary, or if the water depth in

the deepest part of the basin exceeds 2 m (6.6 feet) at low water. Lacustrine waters may be tidal or nontidal, but ocean derived salineity is always less than 0.5 parts per thousand.
Hydro Regime: The appropriate term from the following possible values
"SEMIPERMANENTLY FLOODED" = Surface water persists throughout growing season in most years except during periods of drought. Land surface is normally saturated when water level drops below soil surface. Includes Cowardin's Intermittently Exposed and Semipermanently Flooded modifiers.
"SEASONALLY FLOODED" = Surface water is present for extended periods during the growing season, but is absent by the end of the growing season in most years. THe water table after flooding ceases is very variable, extending from staurated to a water table well below the ground surface. Includes Cowardin's Seasonal, Seasonal-Saturated, and Seasonal-Well Drained modifiers.
"SATURATED" = Surface water is seldom present, but substrate is saturated to surface for extended periods during the growing season. Equivalent to Cowardin's Saturated modifier.
"TEMPORARILY FLOODED" = Surface water present for brief periods during growing season, but water table usually lies well below soil surface. Often characterizes flood-plain wetlands. Equivalent to Cowardin's Temporary modifier.
"INTERMITTENTLY FLOODED" = Substrate is usually exposed, but surface water can be present for variable periods without detectable seasonal periodicity. Inundation is not predictible to a give season and is dependent upon highly localized rain storms. this modifier was developed for use in the arid West for water regimes of Playa lakes, intermittent streams, and dry washes but can be used in other parts of the U.S. where appropriate. This modifier can be applied to both wetland and non-wetland situations. Equivalent to Cowardin's Intermittently Flooded modifier.
"PERMANENTLY FLOODED" = Water covers the land surface at all times of the year in all years. Equivalent to Cowardin's "permanently flooded".
"PERMANENTLY FLOODED TIDAL" = Salt water covers the land surface at all times of the year in all years. This modifier applies only to permanently flooded areas irregularly flooded by fresh tidal water. Equivalent to Cowardin's "permanently flooded/tidal".
"TIDALLY FLOODED" = flooded by the alternate rise and fall of the surface of oceans, seas, and the bays, rivers, etc. connected to them, caused by the attraction of the moon and sun or by the back-up of water caused by unfavorable winds.
"UNKNOWN" = The water regimee of the area is not known. The unit is simply described as "(wetland)'.
Salinity/Halinity: Possible values include
Coastal Tidal: Saltwater - tidal = > 30 ppt
Coastal Tidal: Brackish = 0.5 - 30 ppt
Coastal Tidal: Freshwater = < 0.5 ppt
Inland: Saltwater = > 30 ppt
Inland: Brackish = 0.5 - 30 ppt
Soil Texture: Simplified Key to Soil Texture (Brewer and McCann, 1982)
A1 Soil does not remain in a ball when squeezed . . . . . .sand
A2 Soil remains in a ball when squeezed . . . . . B

B1 Squeeze the ball between your thumb and forefinger, attempting to make a ribbon that you push up over your finger.
Soil makes no ribbon . . . . . loamy sand
B2 Soil makes a ribbon; may be very short C
C1 Ribbon extends less than 1 inch beore breaking . . . . . D
C2 Ribbon extends 1 inch or more before breaking . . . . . .E
D1 Add excess water to small amount of soil;
soil feels at least slightly gritty . . . . loam or sandy loam
D2 Soil feels smooth . . . . . silt loam
E1 Soil makes a ribbon that breaks when 12 inches long; cracks if bent into a ring . . . . . F
E2 Soil makes a ribbon 2+ inches long; doesn't crack when bent into a ring . . . . . .G
F1 Add excess water to small amount of soil; soil feels at least slightly gritty . . . . . sandy clay loam or clay loam
F2 Soil feels smooth . . . . . .silty clay loam or silt
G1 Add excess water to a small amount of soil; soil feels at least slightly gritty . . . . . sandy clay or clay
G2 Soil feels smooth . . . . . silty clay

Soil Drainage: Soil drainage classes are defined in terms of (1) actual moisture content (in excess of field moisture capacity), and (2) the extent of the period during which excess water is present in the plant root zone. It is recognized that permeability, level of groundwater, and seepage are factors affecting moisture status. However, because these are not easily observed or measured in the field, they cannot be used generally as criteria of moisture status. It is further recognized that soil profile morphology, for example mottling, normally, but not always, reflects soil moisture status. Although soil morphology may be a valuable field indication of moisture status, it should not be the overriding criterion. Soil drainage classes cannot be based solely on the presence or absence of mottling. Topographic position and vegetation as well as soil morphology are useful field criteria for assessing soil moisture status.

RAPIDLY DRAINED - The soil moisture content seldom exceeds field capacity in any horizon except immediately after water addition. Soils are free from any evidence of gleying throughout the profile. Rapidly drained soils are commonly coarse textured or soils on steep slopes.

WELL DRAINED - The soil moisture content does not normally exceed field capacity in any horizon (except possibly the C) for a significant part of the year. Soils are ussually free from mottling in the upper 3 feet, but may be mottled below this depth. B horizons, if present, are reddish, brownish, or yellowish.

MODERATELY WELL DRAINED - The soil moisture in excess of field capacity remains for a small but significant period of the year. Soils are commonly mottled (chroma < 2) in the lower B and C horizons or below a depth of 2 feet. The Ae horizon, if present, may be faintly mottled in fine textured soils and in medium textured soils that have a slowly permeable layer below the solum. In grassland soils the B and C horizons may be only faintly mottled and the A horizon may be relatively thick and dark.

SOMEWHAT POORLY DRAINED - The soil moisture in excess of field capacity remains in subsurface horizons for moderately long

periods during the year. Soils are commonly mottled in the B and C horizons; the Ae horizon, if present, may be mottled. The matrix generally has a lower chroma than in the well drained soil on similar parent material.
POORLY DRAINED - The soil moisture in excess of field capacity remains in all horizons for a large part of the year. The soils are usually very strongly gleyed. Except in high chroma parent materials the B, if present, and upper C horizons usually have matrix colors of low chroma. Faint mttling may occur thoughout.
VERY POORLY DRAINED - Free water remains at or within 12 inches of the surface most of the year. The soils are usually very strongly gleyed. Subsurface horizons usually are of low chroma and yellowish to bluish hues. Mottling may be present but at depth in the profile. Very poorly drained soils usually have a mucky or peaty surface horizon.
Leaf Phenology: The value which best describes the leaf phenology of the dominant stratum.
EVERGREEN - Greater than 75% of the total woody cover is never without green foliage.
DECIDUOUS - Greater than 75% of the total woody cover sheds its foliage simultaneously in connection with the unfavorable season.
COLD DECIDUOUS - Unfavorable season mainly characterized by winter frost.
DROUGHT DECIDUOUS - Unfavorable season mainly characterized by drought, in most cases winter-drought. Foliage is shed regularly every year. Most trees with relatively thick, fissured bark.
MIXED EVERGREEN - DECIDUOUS - Evergreen and deciduous species generally contribute 5-75% of the total woody cover.
MIXED EVERGREEN / COLD DECIDUOUS - Evergreen and cold-deciduous species admixed.
MIXED EVERGREEN / DROUGHT DECIDUOUS - Evergreen and drought-deciduous species admixed.
HERB - PERENNIAL - Herbaceous vegetation composed of more than 50% perennial species.
HERB - ANNUAL - Herbaceous vegetation composed of more than 50% annual species.
Leaf Type: The value which best describes the leaf form of the dominant stratum.
BROADLEAF - Woody vegetation primarily broadleaved (generally contribute to greater than 50% of the total woody cover).
NEEDLELEAF - Woody vegetation primarily needleleaved (generally conribute to greater than 50% cover).
MYCROPHYLLOUS - Woody cover primarily microphyllous.
GRAMINOID - Herbaceous vegetation composed of more than 50% graminoid / stipe leaf species.
BROADLEAF HERBACEOUS (FORB) - Herbaceous vegetation composed of more than 50% broadleaf forb species.
PTERIDOPHYTE - Herbaceous vegetation composed of more than 50% species with frond or frondlike leaves.
Physio Class: Physiognomic classes are determined by assessing the relative percent cover and height of the lifeform comprising the uppermost strata with cover greater than 0%. (Note: Percent canopy cover and height ranges are provided as guidelines, not strict

cutoff points).
FOREST - Trees (>5m) with crowns interlocking (generally forming 60-100% cover).
WOODLAND - Trees (>5m) with corwns not touching (25-60% cover).
SPARSE WOODLAND - Trees (>5m) with crowns widely spaced (10-25% cover).
SHRUBLAND - Shrubs/Trees (0.5 - 5m) with 25-100% cover.
SPARSE SHRUBLAND - Shrubs/Trees (0.5 - 5m) with 10 - 25 % cover.
DWARF SHRUBLAND - Dwarf Shrubs/Shrubs/Trees (<0.5m) with 25-100% cover
SPARSE DWARF SHRUBLAND - Dwarf Shrubs/Shrubs/Trees (<0.5m) with 10-25% cover.
HERBACEOUS - Herbaceous plants with 10-100% cover.
SPARSE VASCULAR / NON-VASCULAR - 1-10% Vascular Vegetation.
T1 Hgt: Average height of emergent trees. 01=<0.5m, 02=0.5-1m, 03=1-2m, 04=2-5m, 05=5-10m, 06=10-15m, 07=15-20m, 08=20-35m, 09=35-50m, 10=>50m
T1 Cover: class value that represents the average percent cover of the whole emergent tree stratum.
T2 Hgt: Average height of tree canopy. 01=<0.5m, 02=0.5-1m, 03=1-2m, 04=2-5m, 05=5-10m, 06=10-15m, 07=15-20m, 08=20-35m, 09=35-50m, 10=>50m
T2 Cover: class value that represents the average percent cover of the whole tree canopy stratum.
T3 Hgt: Average height of tree subcanopy. 01=<0.5m, 02=0.5-1m, 03=1-2m, 04=2-5m, 05=5-10m, 06=10-15m, 07=15-20m, 08=20-35m, 09=35-50m, 10=>50m
T3 Cover: class value that represents the average percent cover of the whole tree subcanopy stratum.
S1 Hgt: Average height of tall shrubs (<5 m). 01=<0.5m, 02=0.5-1m, 03=1-2m, 04=2-5m, 05=5-10m, 06=10-15m, 07=15-20m, 08=20-35m, 09=35-50m, 10=>50m
S1 Cover: class value that represents the average percent cover of the whole tall shrubs stratum.
S2 Hgt: Average height of short shrubs (< 2m). 01=<0.5m, 02=0.5-1m, 03=1-2m, 04=2-5m, 05=5-10m, 06=10-15m, 07=15-20m, 08=20-35m, 09=35-50m, 10=>50m
S2 Cover: class value that represents the average percent cover of the whole short shrubs stratum.
H Hgt: Average height of Herbaceous stratum. 01=<0.5m, 02=0.5-1m, 03=1-2m, 04=2-5m, 05=5-10m, 06=10-15m, 07=15-20m, 08=20-35m, 09=35-50m, 10=>50m
H Cover: class value that represents the average percent cover of the whole Herbaceous stratum.
N Hgt: Average height of Nonvascular stratum. 01=<0.5m, 02=0.5-1m, 03=1-2m, 04=2-5m, 05=5-10m, 06=10-15m, 07=15-20m, 08=20-35m, 09=35-50m, 10=>50m
N Cover: class value that represents the average percent cover of the whole Nonvascular stratum.
V Hgt: Average height of Vine / Liana stratum. 01=<0.5m, 02=0.5-1m, 03=1-2m, 04=2-5m, 05=5-10m, 06=10-15m, 07=15-20m, 08=20-35m, 09=35-50m, 10=>50m
V Cover: class value that represents the average percent cover of the whole Vine / Liana stratum.
E Hgt: Average height of Epiphyte stratum. 01=<0.5m, 02=0.5-1m, 03=1-2m, 04=2-5m, 05=5-10m, 06=10-15m, 07=15-20m, 08=20-35m,

09=35-50m, 10=>50m
E Cover: class value that represents the average percent cover of the whole Epiphyte stratum.
Other Measure1 Defined: Non-standard cover classes; 0=No data; 1=<1%; 2=1-10%; 3=10-25%; 4=25-50%; 5=50-75%; 6=75-95%; 7=>95
Other Measure2 Defined:
Animal Use Evidence: Comment on any evidence of use of the plot / polygon by non-domestic animals (i.e., tracks, scat, gopher or prairie dog mounds, etc.). Notes on domestic animals should be made in the field Disturbance Comments.
Disturbance Comments: Comment on any evidence of natural or anthropogenic disturbance and specify the source.
Other Comments: Use this field for general comments, or any comments that don't seem to fit elsewhere.
Update:
User:
Species Counter:
Optional Fields Defined: Hydrologic zones
Opt1: Hydrologic zone number

Species Listing Data for Plots:
Plot Code: This field is the unique identifier for a Plot record. It is generated by the system, at the time a new record is entered into the database. The Plot Code is assembled from two parts: the Location Code and the Plot Code Counter, which is a sequential counter field that is increased automatically each time a Plot is entered for that Location. The sequential counter can be reset to any number you would like.
Plant Symbol: The symbol field provides a quick and easy way to search for a species name in the PLANTS database. It generally consists of the first two characters of the Genus name, plus the first two characters of the Species name. Identical symbol codes that are for different species names are appended with tie-breaker characters.
Scientific Name: The scientific name for an individual species record within the NRCS PLANTS Database. As supplied by the NRCS, this field also contains authority information. This field is used as validation data when a species' name is entered into the Species Scientific Name field in either the Plots or the AA Observations table.
Common Name: The common name for an individual species record within the NRCS PLANTS Database.
Family: The family name for an individual species within the NRCS PLANTS Database.
Used PLANTS: This field will be automatically checked if the name appearing in the Species Scientific Name field is found in the PLANTS database. Note that the automatic check-off will only take place if there is an exact match betwen the Species Scientific Name and the name as listed in PLANTS.
Source: This field indicates the source of the name record in the PLANTS Database. Values are:
SS=Standard Source (e.g. the NRCS PLANTS list),
NS=Non-standard Source (any source other than NRCS),
SY=Accepted synonym by NRCS list.
Within Plot:
The Stratum Sort: The stratum in which this species occurs. T1=Emergent Tree,

T2= Tree Canopy, T3=Tree Subcanopy, S1=Tall Shrub (>5m),
S2=Short Shrub (<2m), S3=Dwarf-Shrub, H=Herbaceous, N=Nonvascular,
E=Epiphyte, V=Vine/Liana.
Diagnostic: This is to be checked if the species is known to be
diagnostic of the vegetation type.
Other Measure1:
Other Measure2:
Update:
User:
Entity_and_Attribute_Detail_Citation:
Grossman, D. Et al. 1994. National Park Service
Vegetation Mapping Project,
Standardized National Vegetation Classification System 209 pp.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Organization:
U.S. Geological Survey, Biological Resources
Division, Center for Infomatics
Contact_Address:
Address_Type: Mailing Address
Address: USGS
Address: Biological Resources Division
Address: Center for Infomatics
Address: PO Box 25046, DFC, MS302
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: 303-202-4229
Contact_Facsimile_Telephone: 303-202-4219 (org)
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Resource_Description: ROCR Veg Map
Distribution_Liability:
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Geological Survey, no warranty expressed or
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Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Format_Name: HTML
Digital_Transfer_Option:
Online_Option:
Computer_Contact_Information:
Network_Address:
Network_Resource_Name: http://biology.usgs.gov/npsveg/rocr/fielddata.html
Fees: None

Metadata_Reference_Information:
Metadata_Date: 200102
Metadata_Review_Date: 20050517
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address:
U.S. Geological Survey, Center for Biological Informatics, MS 302,
Room 8000, Building 810, Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: (303) 202-4219
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Metadata_Standard_Name: FGDC-STD-001.1-1999 Content Standard for Digital Geospatial Metadata, 1998 Part 1: Biological Data Profile, 1999
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Extensions:
Online_Linkage: http://biology.usgs.gov/fgdc.bio/bionwext.txt
Profile_Name: Biological Data Profile FGDC-STD-001.1-1999